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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/691,874	10/19/2000	James A. Proctor JR.	2479.2009-000	5418
21005	7590	05/04/2005	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C.			DAVIS, CYNTHIA L	
530 VIRGINIA ROAD			ART UNIT	
P.O. BOX 9133			PAPER NUMBER	
CONCORD, MA 01742-9133			2665	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/691,874

Applicant(s)

PROCTOR, JAMES A.

Examiner

Cynthia L Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 1/31/05
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 1/31/2005 have been fully considered but they are not persuasive. The downstream mini-slots of Engstrand constitute a plurality of time channels dedicated to communicating with a plurality of mobile devices. Further, the plurality of mobile units communicate upstream with the central node using allocated time slots, which also constitute dedicated time channels (see Engstrand, column 1, lines 58-62). Further, the upstream and downstream channels of Engstrand are out of phase (see column 2, lines 32-45).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1-5, 7-9, 12, 13, 15-18, and 21 are rejected under 35 U.S.C. 102(a) as being anticipated by Engstrand (6671260).

Regarding claim 1, a method of staggering channels in a wireless communications unit is disclosed in Engstrand, figure 1. Identifying a first plurality of channels dedicated for wireless communication from the wireless communications unit to one or more remote wireless communications units is disclosed in column 1, line 59 (the downstream channels). Identifying a second plurality of channels dedicated for

communication from the one or more remote wireless communications units to the wireless communications unit is disclosed in column 1, line 61 (the upstream channels). Scheduling the first plurality of channels according to a first predetermined cycle, and scheduling the second plurality of channels according to a second predetermined cycle, wherein each channel in the first and second plurality of channels is dedicated for communication between the wireless communications unit and a single remote wireless unit, wherein the second predetermined cycle out of phase with the first predetermined cycle is disclosed in Engstrand, column 2, lines 32-45 (describing a system using a predetermined cycle that is out of phase by approximately the processing time of the remote terminal due to blocking).

Regarding claims 2 and 4, the wireless communication unit being a base station processor and the remote wireless communication unit being a subscriber access unit is disclosed in Engstrand, figure 1, elements 10 and 20.

Regarding claim 3, a system for allocating wireless channels in a wireless communication network is disclosed in Engstrand, figure 1. A wireless communication unit operable for wireless communication with one or more remote wireless communication units via a first wireless link having a first plurality of channels dedicated for communication from the wireless communication unit to the one or more remote wireless communication units is disclosed in figure 1, element 10 and column 1, lines 58-62 (the allocated time slots are dedicated time channels). At least one remote wireless communication unit operable for wireless communication with the wireless communication unit via a second wireless link having a second plurality of channels

dedicated for communication from the remote wireless communication unit to the wireless communication unit is disclosed in figure 1, element 20. A local scheduler operable to schedule the first plurality of channels for wireless communication according to a predetermined cycle is disclosed in column 2, lines 32-45 (describing a system using a predetermined cycle). A remote scheduler operable to schedule the second plurality of channels according to a second predetermined cycle, wherein each channel in the first and second plurality of channels is dedicated for communication between the wireless communication unit and a single remote wireless unit, wherein the first predetermined cycle is out of phase with the second predetermined cycle is disclosed in Engstrand, column 2, lines 32-45 (describing a system using a predetermined cycle that is out of phase by the processing time of the terminal; the blocking functionality acts as the remote scheduler).

Regarding claim 5, identifying a first channel dedicated for wireless communication from a base station processor to a subscriber access unit is disclosed in column 3, lines 36-37. Identifying a second channel dedicated for wireless communication from a subscriber access unit to a base station processor is disclosed in column 3, lines 42-44. Scheduling the forward channel for wireless communication according to a forward cycle is disclosed in column 2, lines 32-45 (describing a system using a predetermined cycle). Scheduling first channel for wireless communication according to a first cycle. Scheduling the second channel for wireless communication according to a second cycle, wherein the first cycle and the second cycle are out of phase is disclosed in column 2, lines 32-45 (describing a system using a predetermined

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cycle that is out of phase by the processing time of the terminal; the blocking functionality acts as the remote scheduler).

Regarding claims 7 and 15, the first cycle corresponding to a forward interval, and the second cycle corresponding to a reverse interval is disclosed in column 2, lines 32-45 (both the forward and reverse transmissions are at regular intervals).

Regarding claims 8 and 17, the forward interval and the reverse interval being equal is disclosed in column 4, lines 28-31 (this would happen in the case of only one remote access unit).

Regarding claims 9 and 18, the forward interval and remote interval corresponding to an integral multiple is disclosed in column 4, lines 28-31 (this would happen in the case of multiple wireless access units running the same scheduled services).

Regarding claims 12 and 21, the forward interval and the reverse interval being an epoch is disclosed in column 4, lines 28-31 (an epoch is a regular interval).

Regarding claim 13, a system for wireless communication is disclosed in figure 1. A base station processor connected to a public access network and operable for wireless communication to one or more subscriber units via a first plurality of wireless channels is disclosed in figure 1, element 10. At least one subscriber access unit in the one or more subscriber access units operable for wireless communication to the base station processor via a second plurality of wireless channels is disclosed in figure 1, element 20. A scheduler operable to allocate the wireless channels for wireless communication at a predetermined interval, wherein each channel in the first and

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second plurality of channels is dedicated for communication between the wireless communication unit and a single remote wireless unit and, wherein the scheduler is further operable to schedule the first wireless channels according to a forward cycle, and to schedule the second wireless channels according to a reverse cycle, such that the forward cycle is out of phase with the reverse cycle is disclosed in Engstrand, column 2, lines 32-45 (describing a system using a predetermined cycle that is out of phase by approximately the processing time of the remote terminal).

Regarding claim 16, each of the forward channels and each of the reverse channels being allocated for a predetermined duration based on the forward interval and the reverse interval is disclosed in column 4, lines 28-31.

Regarding claim 24, a system for allocating wireless channels in a wireless communication network is disclosed in Engstrand, figure 1. Means for identifying a first channel dedicated for wireless communication to a subscriber access unit is disclosed in column 3, lines 36-37. Means for identifying a second channel dedicated for wireless communication to a base station processor is disclosed in column 3, lines 41-42. Means for scheduling the first channel for wireless communication according to a first cycle is disclosed in column 2, lines 32-45. Means for scheduling the second channel for wireless communication according to a second cycle, wherein the first cycle is out of phase with the second cycle is disclosed in column 2, lines 32-45 (the blocking functionality acts to schedule the reverse channel).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6, 10, 11, 14, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engstrand.

Regarding claims 6 and 14, in the first channel is scheduled by a first scheduler in the base station processor is disclosed in column 2, lines 32-45. Claim 6 further discloses the reverse channel is scheduled by a second scheduler in the subscriber access unit, which is not explicitly disclosed in Engstrand. However, in column 2, lines 32-45, the blocking functionality in the scheduler in the base station acts to schedule the transmissions from the subscriber access units. It would have been obvious to one skilled in the art at the time of the invention to move the remote scheduler from the base station to the subscriber access units. The motivation would be to decentralize the remote scheduling.

Regarding claims 10 and 19, the duration of the forward interval and reverse interval being between 26 and 27 ms is missing from Engstrand. However, 26.6667 ms is disclosed in the instant specification at page 6 to be the usual cycle time for a specific wireless protocol. It would have been obvious to one skilled in the art at the time of the



invention to use 26.6667 ms as the cycle time. The motivation would be to be able to use a specific wireless protocol.

Regarding claims 11 and 20, the forward interval and reverse interval being between 13 and 14 ms out of phase is not explicitly stated in Engstrand. However, Engstrand does disclose, in column 2, lines 12-14, the amount by which the intervals are out of phase to be corresponding to the processing time of the remote terminal. It would have been obvious to one skilled in the art at the time of the invention to have the intervals out of phase by 13 to 14 ms. The motivation would be to work with a specific processing time.

3. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engstrand in view of Turner (6788689).

Regarding claim 22, means for identifying a first channel dedicated for wireless communication to a subscriber access unit is disclosed in column 3, lines 36-37. Means for identifying a second channel dedicated for wireless communication to a base station processor is disclosed in column 3, lines 41-42. Means for scheduling the first channel for wireless communication according to a first cycle is disclosed in column 2, lines 32-45. Means for scheduling the second channel for wireless communication according to a second cycle, wherein the first cycle is out of phase with the second cycle is disclosed in column 2, lines 32-45 (the blocking functionality acts to schedule the reverse channel). Claim 22 further specifies that all of these means are implemented in computer program code, which is missing from Engstrand. However, Turner discloses in column 5, line 56, and column 6, lines 5-14, computers being used to schedule

packets in a wireless network. It would have been obvious to one skilled in the art at the time of the invention to implement the method of Engstrand in computer code. The motivation would be to have a convenient way to implement the Engstrand system.

Regarding claim 23, means for identifying a first channel dedicated for wireless communication to a subscriber access unit is disclosed in column 3, lines 36-37. Means for identifying a second channel dedicated for wireless communication to a base station processor is disclosed in column 3, lines 41-42. Means for scheduling the first channel for wireless communication according to a first cycle is disclosed in column 2, lines 32-45. Means for scheduling the second channel for wireless communication according to a second cycle, wherein the first cycle is out of phase with the second cycle is disclosed in column 2, lines 32-45 (the blocking functionality acts to schedule the reverse channel). Claim 22 further specifies that all of these means are implemented in program code, which is missing from Engstrand. However, Turner discloses in column 5, line 56, and column 6, lines 5-14, computers being used to schedule packets in a wireless network. It would have been obvious to one skilled in the art at the time of the invention to implement the method of Engstrand in computer program code. The motivation would be to have a convenient way to implement the Engstrand system.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

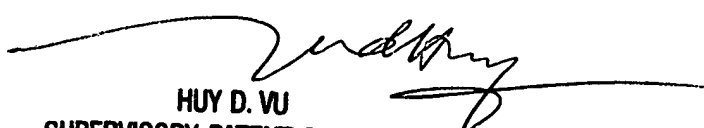
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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